

HYDROPLEX VAPOR CONTAINMENT SYSTEM DESCRIPTION OF OPERATION

The optional Hydroplex vapor containment system uses an additional secondary seal in the packing barrel to prevent any fluid that leaks past the main packing from going directly into the atmosphere. The secondary seal creates a chamber in the packing barrel that captures the leakage, and then allows it to drain or be vented to a dedicated system. This system can be a vapor recovery unit that evacuates that chamber, or a tank that the liquid drains into.

Most applications use the optional Hydroplex containment tank to capture the fluid. This tank should be located at an elevation lower than the pump pressure barrel so that the fluid drains into the tank and keeps the pump pressure barrel void of fluid. The tank includes a sight glass for visual monitoring of the fluid level, as well as a level switch that can be wired as a shutdown or alarm to warn of rising fluid level. The top of the tank includes a vent connection that should be piped to a vapor recovery unit or into a dedicated vent header.

Venting of the tank to a dedicated vent header provides a system such that even a failure of the level switch with a rising fluid level would do no damage; the fluid would be contained in this system. Long-term operation would be compromised, however, as the packing chamber would remain filled with fluid and dilute the pump lubrication to the plungers. This would result in lessened packing life. Also, some slight loss of fluid to the atmosphere could occur, as the secondary chamber would become pressurized and full of fluid'. Seepage past the secondary seal to atmosphere would then be possible.

In normal operation some gradual rising of the fluid level in the tank will occur, as no packing forms a perfect seal and some leakage is expected. The level in the sight glass should be monitored regularly, and the tank drained before the level reaches the level switch elevation.

In the event of a complete packing failure, the level would rise rapidly, causing the level switch to trip. This would indicate that a packing change is in order. See the operating manual for the correct procedure for changing the packing.